Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-58 (Cancelled)

59. (Currently amended) ~~Nanostructure~~ A nanostructure having at least one elongated structure element ~~comprising~~ of a first material, ~~wherein~~ said elongated structure element being 100nm in length or less and having~~,~~

- at least one end portion being coupled to at least one nanozone; and
- at least other end portion capable of coupling to a further nanozone;

wherein said nanozone and further nanozone each being of a second material that differs from said first material in at least one property selected from electrical conductivity, chemical reactivity and composition ~~bears on at least one of its end portions a second material that differs from said first material in at least one property selected from: electrical conductivity, chemical reactivity and composition~~.

60. (Currently amended) ~~Nanostructure~~ The nanostructure according to claim 59, wherein the second material is a metal or metal alloy.

61. (Currently amended) ~~Nanostructure~~ The nanostructure according to claim 59, wherein the second material is a conductive polymer or an insulating material.

62. (Currently amended) ~~Nanostructure~~ The nanostructure according to claim 59, wherein the second material is a semiconductor material.

Claims 63 and 64 (Cancelled).

65. (Currently amended) The nanostructure ~~of~~ according to claim 59, wherein said first and second materials are each a semiconductor material is selected from Group II-VI semiconductors, Group III-V semiconductors, Group IV-VI semiconductors, Group IV semiconductors, alloys made of these semiconductors, combinations of the semiconductors in composite structures and core/shell structures of the above semiconductors.

Claim 66 (Cancelled).

67. (Currently amended) The nanostructure according to claim ~~66~~ 65, ~~comprising a~~ wherein said first material ~~being~~ is CdSe or CdSe/ZnS in a core/shell layered arrangement and said

second material is gold~~, an elongated structure element of said tetrapod bearing on at least one of its end portions an electrically conductive zone made of gold~~.

68. (Currently amended) A method for forming a nanostructure having at least one elongated portion, of a first material, and a nanozone of a second material on at least one of its end portions, said first and second materials being different in at least one property selected from electrical conductivity, chemical reactivity and composition, said method comprising:

~~zone on at least one end portion of a nanostructure, wherein said zone differs from the whole nanostructure, the method comprising:~~

~~contacting~~ - providing a solution ~~comprising~~ of nanostructures, each nanostructure having ~~composed of~~ at least one elongated structure element of a first material;~~,~~

~~with a~~ - contacting said nanostructures in solution with ~~comprising~~ an agent of a second material, said agent being selected from a metal source, a metal alloy source, a conductive polymer source, an insulating material source and a semiconductor source; and~~,~~

- allowing growth of said at least one agent of a second material on at least one end portion of the elongated portion of each of said nanostructures, to thereby obtain ~~upon isolation~~ nanostructures ~~being 100nm in length or less,~~ bearing at least one nanozone on at least one end portion of said at

least one elongated structure ~~thereof that differs from the nanostructure in at least one property selected from: electrical conductivity, chemical reactivity and composition~~.

69. (Currently amended) ~~A~~ The method according to claim 68, wherein said agent is selected from a metal source and a metal alloy source ~~comprising: contacting a solution comprising nanostructures composed of at least one elongated structure element, with a solution comprising metal source or metal alloy source, to obtain upon isolation nanostructures bearing at least one zone comprising metal or metal alloy on said at least one elongated structure thereof~~.

70. (Currently amended) The method according to claim 68, wherein said ~~nanostructure is made of a~~ first material is selected from ~~comprising~~ a semiconductor material, an insulating material, a metal ~~or~~ and ~~mixtures~~ a combination thereof.

71. (Currently amended) The method according to claim 70, wherein said first material is a semiconductor material.

72. (Currently amended) The method according to claim 71, wherein said ~~branched shape comprises~~ nanostructure is selected from a bipod, a tripod and a tetrapod.

73. (Currently amended) A method for forming an electrically conductive zone on a nanostructure having at least

one elongated ~~structure element~~ portion, ~~the~~ said method comprising:

~~contacting,~~ - providing an organic solution ~~comprising~~ of semiconductor nanostructures, each nanostructure having at least one elongated structure element;

- contacting said nanostructure in said organic solution with ~~an~~ another organic solution comprising a metal or metal alloy source, a stabilizer and/or an surfactant and/or electron donor; and

- allowing growth of said metal or metal alloy on at least one end portion of the elongated portion of each of said semiconductor nanostructures, to thereby obtain ~~upon precipitation~~ semiconductor nanostructures ~~of 100nm in length or less~~, bearing at least one electrically conductive nanozone ~~comprising~~ of metal or metal alloy on said at least one end portion of said at least one elongated structure ~~thereof~~.

74. (Currently amended) The method according to claim 73, wherein said ~~nanostructures are~~ nanostructure is in ~~the~~ a form ~~of~~ selected from a nanorod~~nanorods~~, a bipod~~bipods~~, a tripod ~~tripods~~, a tetrapod~~tetrapods~~, a nanowire~~nanowires or~~ and a nanotube ~~nanotubes~~.

Claims 75-80 (Cancelled).

81. (Currently amended) A self ~~Self~~ assembled construct, comprising a plurality of nanostructures according ~~of~~ to claim 59, wherein each nanostructure is optionally linked to another nanostructure in the construct through its conductive zone.

82(New). A solution comprising a plurality of nanostructures according to claim 59.

83(New). The solution according to claim 82, wherein each of said nanostructures having an elongated structure element comprising at least one end portion coupled to a nanozone.

84(New). The solution according to claim 83, wherein said elongated structure having two end portions, each being coupled to a nanozone.

85(New). The nanostructure according to claim 59, wherein one of the end portions of said elongated structure is coupled to a nanozone.

86(New). The nanostructure according to claim 59, wherein each of the end portions of said elongated structure is coupled to a nanozone.

87(New). The nanostructure according to claim 59, wherein said at least other end portion is coupled to a further nanozone.

88(New). The nanostructure according to claim 59, having two or more end portions.

89(New). The nanostructure according to claim 59, being selected from a bipod, a tripod and a tetrapod.

90(New). The nanostructure according to claim 59, wherein said first material is selected from the group consisting of a semiconductor material, an insulating material, a metal and a combination thereof.

91(New). The nanostructure according to claim 67, wherein said Group II-VI semiconductors are alloys selected from the group consisting of CdSe, CdS, CdTe, ZnSe, ZnS, ZnTe, and combinations thereof.